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GENDER VARIATION OF ANGLICISMS IN GERMAN: THE INFLUENCE OF COGNITIVE FACTORS AND REGIONAL VARIETIES

ALEXANDER ONYSKO[a], MARCUS CALLIES[b] AND EVA OGIERMANN[c]
[a]*University of Klagenfurt/EURAC Bolzano* [b]*University of Bremen* [c]*King's College London*
[a]*alexander.onysko@aau.at*

ABSTRACT

When English nouns are borrowed into German, they need to be assigned grammatical gender. Since grammatical gender information is not present in English, the integration of anglicisms in German offers the opportunity to investigate regularities of gender assignment. Furthermore, it can be expected that the integration of loanwords can cause some variation in the usage of grammatical gender, as has been observed impressionistically for different varieties of German in previous research. This article picks up on both of these issues and first of all discusses "gender assignment schemas" for English loans based on established patterns of gender assignment in German. Secondly, an empirical study investigates gender variation across three major German dialect areas. The findings show a substantial amount of variation among many of the test items. These results are discussed in relation to cognitive schemas of gender assignment and in terms of regional variation.

KEYWORDS: Gender assignment; loanwords; anglicisms; German; variation.

1. Introduction

Grammatical gender assignment is a fascinating topic in linguistic research as it has implications across the traditional areas of language analysis including morphology, syntax, and lexical semantics. In Corbett's (1991) work, grammatical gender is explained from a morphosyntactic point of view, focusing on the complexities of gender systems in diverse languages as evident in their agreement paradigms and gender markers. Psycholinguistic research, on the other hand, has investigated the lexicon-grammar interface by testing the existence of semantic and formal associative patterns which guide gender assignment. Studies

conducted by Neumann (2001), Schiller et al. (2006), Schwichtenberg and Schiller (2004), and Schiller and Caramazza (2006), provide evidence that semantic and word formal associations trigger certain grammatical genders. At the same time, grammatical gender can also remain lexically motivated, which explains exceptions to certain regularities as instances of rote learning. To a certain extent, the findings in psycholinguistic research fall in line with cognitive linguistic approaches. Thus, scholars such as Salmons (1993), Doleschal (2000, 2004), and Nesset (2006) see grammatical gender in terms of associative schemas incorporated in a neuronal network of language (cf. Bybee 1985, 2001, 2010). In addition, research inspired by cognitive semantics tries to establish a basic grounding of gender categories according to the principles of (un)boundedness and (in)divisibility (Bittner 2001; Vogel 2000). From yet another theoretical perspective, the attribution of gender to nouns has been viewed through the lens of optimality theory. Foundational work by Steinmetz (1986) on default genders and interacting gender rules has been continued by Rice (2006) and Steinmetz (2006).

Previous research on gender systems in different languages shows that gender assignment in German has proven to be particularly complex despite the fact that the German gender system is a straightforward three part system of feminine (f.), masculine (m.), and neuter (n.).[1] The complexities of gender in German arise due to the existence of different semantic, morphological, and phonological patterns that can trigger a certain gender.

The question of gender assignment becomes even more interesting when new words enter a language. This is the case when English terms (i.e. anglicisms, e.g. *Business*, *E-Mail*, *Power*) are borrowed into German or other languages with a system of grammatical gender. It is thus not surprising that the question of gender assignment to anglicisms has spawned a substantial amount of research (see Section 2 for a discussion of some major studies). The issue of gender variation, however, has received considerably less attention.[2] This is mostly due to the fact that analyses are based on written corpora and dictionar-

[1] The three grammatical genders are most perspicuously marked by the definite articles in the nominative case (and only in the singular) of German nouns as in *das* (n.) *Auge* 'the eye', *die* (f.) *Sonne* 'the sun', and *der* (m.) *Mond* 'the moon'.

[2] Gender variation occurs when an anglicism is used with different genders in the speech community or by individual speakers. An example of that is the variable use of feminine, neuter, and masculine gender in *Badge* (i.e. *die/das/der Badge*). This has to be differentiated from instances in which a difference in gender coincides with a difference in meaning of an anglicism (e.g. *der Single* 'single person', *die Single* 'single record', *das Single* 'single (tennis) match'). Such cases are not considered as gender variation.

ies where gender variation is likely to be smaller than in spontaneous language use (Callies et al. 2012). Based on earlier research (Callies et al. 2010), the current study pays close attention to the issue of gender variation of anglicisms in German and sheds new light on some pending questions. First of all, our study aims to verify the amount of gender variation for a selection of anglicisms and, by implication, relate that amount of variation (or the lack thereof) to particular associative schemas of gender assignment. This involves testing the potential interference from the gender of German lexical equivalents on the gender of their associable anglicisms. A further objective of the study is to investigate regional variation, particularly the widespread assumption that southern German speaking areas (e.g. Austria) tend to opt for different genders from the ones used in central and northern parts of Germany.

In line with these aims, the next section will commence with a brief review of research on gender assignment in German which focuses on previous work on anglicisms. An overview of associative schemas of gender assignment suggested to date and a concise discussion of the controversial notion of lexical-conceptual equivalence provide the theoretical background for the empirical study on gender variation. The methodology of the study will be outlined in Section 3. Section 4 will illustrate the main results of the study and discuss how the variation of individual anglicisms can be related to associative gender schemas. Section 5 provides additional evidence of variation by comparing the results in southern, central, and northern parts of the German speaking area.

2. Previous research on gender assignment to anglicisms and basic gender schemas

Research on gender assignment to anglicisms in German largely draws on work on German gender in the native lexicon. In this respect, the work by Köpcke (1982), Zubin and Köpcke (1986) and Köpcke and Zubin (1996) has added new insights into potential regularities of German gender assignment, bearing evidence to refute earlier opinions that gender assignment in German is to a large extent arbitrary (cf. Bloomfield 1933: 280; Maratsos 1979: 235). Köpcke (1982) establishes an intricate system of semantic, morphological, and phonological patterns, which, in his model, can explain about 90% of gender assignment to monosyllabic German nouns (Köpcke and Zubin 1996: 487). However, the postulation of stochastic rules has also inspired some criticism concerning their validity, particularly regarding the gender-biased phonological sequences in monosyllabic German nouns (cf. Wegener 1995).

Soon after Köpcke's (1982) study, Steinmetz (1986) postulated a theory of gender assignment that operates on a default hierarchy of gender assignment and a large set of assignment rules. In this model, morphological, semantic, and phonological rules can operate at the same time and a potential conflict occurring when more rules for different genders apply is resolved according to an underlying hierarchy of m > f > n[3] in German. For example, Steinmetz (1986: 193) explains the difference between the feminine gender of *die Frucht* and neuter gender of *das Obst* in the following way:

das Obst [superordinate = n.]	0m > 0f > 1n = n
die Frucht [-ucht = f; superordinate = n]	0m > 1f > 1n = f

Although Steinmetz has developed an intricate rule-system that can account for a large part of gender assignment in the German lexicon, his model has been criticized for its "mental rule counting" of gender assignment, in which any type of semantic, morphological, and phonological rule has the same associative strength (cf. Nesset 2006: 1374). As shown in Bybee's (1985) work on regular and irregular past tense morphology in English, abstract rules can be described as mental schemas (patterns of neuronal activity) which are not equally accessible in the mind. In fact, frequency of use (as type and token instantiations of forms and schemas) plays a substantial role in language processing and production. Thus, it is important to consider that different gender rules can be more or less prevalent or entrenched (to use Langacker's terminology, cf. e.g. 1999).

In addition to research on individual gender rules and their potential interaction, some work on gender in German can be situated in a cognitive semantic framework. For instance, Zubin and Köpcke (1986) show that there is a relation between inanimacy and neuter gender and its preferred use for superordinate terms in taxonomically related word fields. When describing the morphological paradigms of the definite article in German, Bittner (2001: 11) observes a correlation between gender and nominal part-whole conceptualizations. Thus, feminine gender relates to abstract nouns as "unbounded wholes with bounded parts", masculine refers to concrete nouns as "bounded wholes (no parts)" and neuter is associated with continuative/collective nouns as "unbounded wholes with unbounded parts / bounded wholes with bounded parts". Zubin and Köpcke's (1986) observation on a tendency for neuter gender in superordinate terms converges with Bittner's claim since superordinate nouns frequently rely

[3] The greater than sign (>) in the hierarchy means that masculine gender outranks feminine gender which in turn outranks neuter gender.

on collective interpretations (e.g. *das Obst* 'fruit', *das Gemüse* 'vegetable', *das Werkzeug* 'tools'). Finally, Vogel (2000) highlights the relation between different degrees of individuation and German gender categories. Her focus on individuation is closely linked to Bittner's conceptual interpretation of gender in German. More specifically, Vogel (2000: 481) aligns masculine, feminine, and neuter gender on a continuum from individuality to continuativity with masculine (as countable and indivisible) holding the individuality pole and neuter (as uncountable and divisible) occupying the other extreme point of continuativity. In addition, Vogel's work adds the crucial observation that the underlying conceptualizations that relate to diverse states of boundedness and divisibility are also present in derivational processes. This is evident in the example of verb to masculine noun conversion, in which the resulting nouns are conceptualized as bounded instances of actions, frequently undergoing a process of concrete objectification (e.g. *anstreichen* 'to paint' → *der Anstrich* 'the paint'; *einsteigen* 'to get on a bus, etc.' → *der Einstieg* 'the entrance in a bus, etc.').

In research on anglicisms in German, the phenomenon of how English loans are integrated into the gender system has been discussed in major studies investigating the influence of English on German (e.g. Carstensen 1965; Fink 1968; Yang 1990; Busse 1993) and in a number of research articles (Arndt 1970; Lang 1976; Carstensen 1980; Schlick 1984). In the first monograph devoted to this topic, Gregor (1983) concludes that gender assignment to English terms basically follows the same semantic and morphological regularities that hold for the German lexicon at large. In addition, Gregor points out that the gender of an English borrowing can also follow analogically from the gender of a close lexical-semantic equivalent (e.g. *die Power* in line with German *die Kraft* 'power, force'). This process, which can be called the lexical equivalence criterion (see (1) below), assumes an important position among Gregor's rules of gender assignment to English loanwords:

(1) If the English loan is a morphologically simple term, gender is assigned according to the nearest German equivalent term.

(2) If the English loan is a conspicuous, morphologically complex term, the English loan takes its gender in line with the German gender-bearing morpheme.

(3) If the English loan fits into a semantic field of German gender (e.g. alcoholic drinks → masculine, as in *der Whiskey*), the borrowing takes the corresponding German gender (adapted from Gregor 1983: 59–60).

These rules imply that in the absence of clear morphological markers and of semantic field associations, the gender of a close German lexical equivalent represents a fall-back criterion used to assign gender to English borrowings. For Gregor, these rules also represent a prescriptive guideline for correct gender assignment to a loanword in German (1983: 88).

More recently, Gregor's claims have met some criticism (cf. Scherer 2000; Chan 2005; Onysko 2006, 2007) which is geared towards the notion of lexical equivalence. First of all, it has been shown that lexical equivalence can interact with a more deeply entrenched, automatic mode of gender assignment that relies on common conceptualizations and gender patterns in the native lexicon (cf. Corbett 1991; Salmons 1993). Furthermore, Scherer (2000: 18–19) and Chan (2005: 104–105) note that an adequate lexical equivalent can be hard to come by, and this observation is exemplified in Onysko (2007), who shows that anglicisms can have a range of translational equivalents with different genders. In his corpus analysis, only 17 out of 63 monosyllabic masculine anglicisms fall in line with the gender of an appropriate lexical equivalent. Furthermore, 18 monosyllabic masculine anglicisms take a gender different from an appropriate translational equivalent (e.g. *der Clinch* but *die Umklammerung*; *der Mix* but *die Mischung*, *das Gemisch*; *der Speed* but *die Geschwindigkeit*; and *der Trend* but *die Entwicklung*, *die Tendenz*; Onysko 2007: 166–167). This evidence suggests that the postulate of gender assignment to anglicisms according to the gender of a German equivalent needs to be reassessed in order to gain a more fine-grained understanding of lexical equivalence.

A first step towards such a reassessment can be taken by considering the role of cognates as pointed out in Chan (2005), Audring (2006), and Yeandle (2009). For anglicisms in German, the cognate principle means that when an English borrowing is etymologically and formally closely related to a native term, it takes the gender of the cognate (e.g. E. *(note)book* → G. *das Buch* = *das Notebook*). The cognate effect has to be contrasted with the mere existence of a range of translational equivalents in German, which can only account for loose associative links between the gender of a German term and its semantically related English loan. Thus, lexical-conceptual equivalence can be viewed as a continuum of varying associative strength ranging from high (cognates) to low (translational equivalents). A mid zone of associative strength can be postulated in cases where an anglicism is associated to a basic concept in the recipient language, which is usually expressed with a single German term (e.g. *die Time* ← G. *die Zeit*). Figure 1 illustrates lexical-conceptual equivalence as a continuum of associative strength which can lead to the copying of gender from a German term onto a loanword.

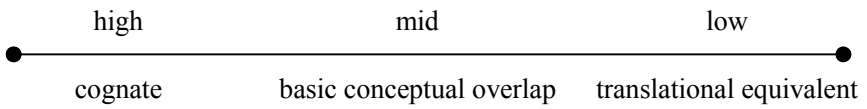

Figure 1. Associative continuum for lexical-conceptual equivalence from high to low associative strength.

In line with a conception of language as a usage-based network, cognates which combine formal and conceptual similarities in the languages in contact are shown to have a high propensity for causing transfer (or interference).[4] In the context of gender assignment to English loans in German, this means that anglicisms such as *der Market* (G. *der Markt*), *die School* (G. *die Schule*), *die Line* (G. *die Linie*), *die Music* (G. *die Musik*), and *die Card* (G. *die Karte*) form strong associative links to their German cognates which support the transfer of their gender onto the anglicisms. A weaker associative connection holds between anglicisms and their German conceptual equivalents which refer to frequently used basic concepts and which do not have several competing equivalents, e.g. *der Airport* (G. *der Flughafen*), *die Power* (G. *die Kraft*), *das Shirt* (G. *das Hemd*). The lowest level of gender associations occurs when an anglicism does not have a German cognate and when it introduces a new concept into German which overlaps with several German translation equivalents. For example, when the loan *E-Mail* started to appear in the German newsmagazine *Der Spiegel* in 1994, the anglicism was assigned feminine gender in line with its translational equivalent *die elektronische Post*, which was given in brackets immediately following the loan (cf. Onysko 2006: 186–187).

Recent research on the gender of anglicisms in German has further analyzed regularities of gender assignment (Chan 2005; Onysko 2006, 2007). Incorporating basic morphological and semantic rules[5] that hold for the German lexicon at large (cf. Köpcke and Zubin 1996; Steinmetz 1986; and for a general overview Eisenberg 1998: 198–212), Onysko (2007: 151–180) accounts for the genders of a large amount of anglicisms in his analysis of the German newsmagazine *Der*

[4] To give an early classical example of that type of influence, cf. Haugen's (1950: 219) discussion of lexical semantic interference in American Portuguese where formal and conceptual overlap inspired a semantic change of Portuguese *livraria* from its original meaning of 'bookstore' to the English meaning of *library*.

[5] Phonological patterns of gender assignment play a minimal role since the most widespread phonological associative schema of {final schwa → feminine} is virtually absent in English loans where word final *-e* is usually not pronounced.

Spiegel. These are gathered below in Table 1 and 2 according to whether they hold as conventions for all genders or as associative schemas triggering a specific gender.

Table 1. Cross-categorical gender schemas of anglicisms in German[6] (adapted from Onysko 2007: 151–175).

Cross-categorical conventions (f/m/n)	
Associative schema	Examples
Gender trace {gender of reduced form = gender of full form/implied form}	*der Champ* (→ *der Champion*), *das Copyright* (→ *das Gesetz*), *der DJ* (→ *der Discjockey*), *der Doc* (→ *der Doctor*), *das GPS* (→ *das System*), *der Jumbo* (→ *der Jet*), *der PC* (→ *der Personal-computer*), *der Pick-up* (→ *der Truck*), *der Profi* (→ *der Professional*), *der Pulli* (→ *der Pullover*), *der Rolls* (→ *der Rolls Royce*), *der Science-Fiction* (→ *der Film*), *der Skin* (→ *der Skinhead*)
Gender copy {gender of anglicism = gender of German lexical-conceptual equivalent}	*der Airport* (G. *der Flughafen*), *die Card* (G. *die Karte*), *das Committee* (G. *das Komitee*), *die Crisis* (G. *die Krise*), *die Domain* (G. *die Domäne*), *die Flatrate* (G. *die Rate*)

Table 1 features two conventional processes which hold for all gender categories. The cross-categorical convention of *gender trace* describes the fact that the reduced form of a term maintains the same gender of its full form. As the examples in Table 1 show, a reduction in form does not only relate to straightforward abbreviations and clippings of anglicisms as in *der Champ* (→ *der Champion*), *der DJ* (→ *der Discjockey*), and *der Doc* (→ *der Doctor*), but it also includes unexpressed collocational and associative heads that bear gender in their extended realization (e.g. *der Pick-up* → *der Truck*, *der Science-Fiction* → *der Film*, *das Copyright* → *das Gesetz*). As such, gender trace merely describes the possibility that the gender of a shortened form relies on its full form. Gender trace does not provide a reason for why a specific gender was assigned in the first place.

The convention of *gender copy* occurs when the gender of an anglicism is a copy of the gender of a close German lexical-conceptual equivalent (see Figure

[6] Braces {...} are used as notational devices for gender schemas.

1). At first sight, gender copy thus describes the only borrowing specific process of gender assignment. However, as pointed out by Corbett (1991: 77), gender copy is not necessarily tied to borrowings, but it is an instantiation of "concept association", which can also give rise to semantic regularities of gender assignment in the native lexicon of a language.

Table 2. Gender-specific associative schemas of anglicisms in German (adapted from Onysko 2007: 151–175).

Morphological schemas (gender specific)		
Morphological type	Associative schema	Examples
Conversion	{monomorphemic deverbal stem nouns → masculine}	*der Chat*, *der Crash*, *der Deal*, *der Kick*, *der Look*, *der Take*, *der Talk*, *der Thrill*, *der Touch*
Conversion	{polymorphemic deverbal stem nouns → masculine/ neuter}	*der/das Blackout*, *der/das Countdown*, *der/das Download*, *der/das Output*, *der/das Showdown*, *der/das Take-off*, *der/das Check-in*
Conversion	{deverbal infinitive nouns → neuter}	*das Surfen*, *das Downloaden*, *das Chillen*, *das Relaxen*
Suffix analogy[7]	{*-er* → masculine}	*der Manager*, *der Computer*, *der Server*, *der Player*, *der Shareholder*, *der Reporter*, *der Trainer*
Suffix analogy	{agentive *-ist* → masculine}	*der Essayist*, *der Lobbyist*
Suffix analogy	{agentive *-ant* → masculine}	*der Consultant*
Suffix analogy	{*-ism*/*-ismus* → masculine}	*der Hooliganismus, der Laddism*
Suffix analogy	{*-ion* → feminine}	*die Action*, *die Communication*, *die Connection*
Suffix analogy	{*-ness* → feminine}	*die Cleverness*, *die Coolness*, *die Correctness*, *die Fairness*, *die Fitness*, *die Wellness*

[7] The term suffix analogy is used in this study to describe the fact that a specific suffix analogically triggers a certain gender. Thus, suffix analogy is not applied in the sense of cross-linguistic analogy even if some suffixes in Table 2 (e.g. *-er*, *-ant*, *-ion*) exist in both English and German for diachronic reasons of common ancestry and earlier contact with Romance languages.

Suffix analogy	{*-in* → feminine}	*die Designerin*, *die Interviewerin*, *die Lobbyistin*, *die Managerin*, *die Reporterin*, *die Trainerin*
Suffix analogy	{*-ess* → feminine}	*die Stewardess*
Suffix analogy	{*-anz/ance* → feminine}	*die Performance*
Suffix analogy	{*-ing* → neuter}	*das Briefing*, *das Casting*, *das Catering*, *das Coaching*, *das Controlling*, *das Doping*, *das Engineering*, *das Feeling*, *das Happening*, *das Kidnapping*, *das Landing*, *das Leasing*
Suffix analogy	{*-ment* → neuter}	*das Agreement*, *das Apartment*, *das Entertainment*, *das Equipment*, *das Establishment*, *das Impeachment*, *das Investment*, *das Management*, *das Statement*
Suffix analogy	{diminutive suffixation → neuter}	*das Girlie*, *das Groupie*, *das Starlet*
Suffix analogy	{*-al* (nominal suffix) → neuter}	*das Festival*, *das Musical*, *das Revival*, *das Terminal*

Semantic schemas (gender specific)

Semantic type	Associative schema	Examples
Sex-based	{sex of referent → grammatical gender}	*der Boy*, *der Chairman*, *der Daddy*, *der Doorman*, *der Dressman*, *der Gentleman*, *der Guy*, *der Lad*, *der Mister*
Sex-based	{generic person → masculine}	*der Bodyguard*, *der Comedian*, *der Counterpart*, *der Hippie*, *der No-Name*, *der Outcast*, *der Skinhead*, *der Softie*, *der Tennis-Crack*, *der Tycoon*, *der Underdog*, *der Workaholic*, *der Star, der Fan*, *der Freak*, *der Coach, der VIP*
Semantic field	{type of music → masculine}	*der Blues*, *der Hiphop*, *der Jazz*, *der Pop*, *der Punk, der Techno*, *der Rap*, *der Rock*, *der Soul*, *der Swing*
Semantic field	{type of car → masculine}	*der Jeep*, *der Minivan*, *der Rolls*, *der Truck*

Semantic field	{alcoholic beverage → masculine}	*der Cocktail*, *der Drink*, *der Whiskey*
Semantic field	{name of currency → masculine}	*der Cent, der Dollar*
Semantic field	{collective of individuals → feminine}	*die Band*, *die Crew*, *die Family*, *die Gang*, *die Group*, *die Task-Force*
Semantic field	{superordinate → neuter}	*das Business*, *das Country*, *das Empire*, *das Food*, *das Handicap*, *das Image*, *das Joint Venture*
Semantic field	{institutions → neuter}	*das College*
Semantic field	{dwellings → neuter}	*das Camp, das Center*, *das Cockpit*, *das Office*, *das Penthouse*
Semantic field	{units of measurement → neuter}	*das Barrel*, *das Bit, das Pint*
Semantic field	{chemical substances, names of drugs → neuter}	*das Speed, das Dope, das Crack*

Table 2 gives an overview of morphological and semantic gender schemas. The latter can be further subdivided into semantic field analogies that are relevant across the German lexicon and into sex-based gender associations which assign gender according to the sex of the referent or in line with generic reference to human roles.

Among the morphological schemas, a variety of suffixes are aligned with either feminine, masculine, or neuter gender. Some of the suffix schemas are particularly frequent and are generally strongly entrenched allowing for hardly any exceptions. These are {*-er* → masculine} and other agentive suffixes, as well as {*-ing* → neuter}, {*-ment* → neuter}, and {diminutive suffixation → neuter}. Among the conversion rules, deverbal infinitive conversion into nouns is a regular trigger of neuter gender whereas deverbal stem conversion depends on the number of morphemes. Thus, monomorphemic verb stems take masculine gender when used as nouns whereas polymorphemic nouns are characterized by some variation between masculine and neuter gender. Importantly, the fluctuation between masculine and neuter can reflect their conceptualizations as either a concrete, bounded event or as an unbounded nominalized process. A similar observation is made by Carstensen (1980: 61–62), who notes that gender varia-

tion in the anglicism *Take-off* between neuter and masculine depends on the interpretation of the term as a process (neuter) or as an event (masculine).

Overall, the set of morphological and semantic schemas, as well as the conventions of gender trace and gender copy, explain a substantial amount of gender assignment to established anglicisms in German. However, fundamental questions are still waiting for empirical solutions: Is there psycholinguistic evidence for the existence of these schemas and how do the gender schemas interact in the process of gender assignment? While a study by Schwichtenberg and Schiller (2004) provides some evidence for the existence of gender schemas, more research into the question of how gender schemas interact in the mind of a speaker could shed light on the mental salience of the individual gender schemas.

As a first step towards that aim, it is important to closely consider the phenomenon of gender variation, since variation could also be a symptom of competing gender schemas in the mind of a speaker. However, previous research on anglicisms has mostly focused on written corpora and dictionaries, which tend to minimize gender variation. The studies by Schulte-Beckhausen (2002) and Fischer (2005) are the first to offer a more detailed exploration of gender variation. Schulte-Beckhausen compares gender variation in a number of dictionaries, electronic newspaper corpora, and in an elicitation task. She notes a tendency towards more variation in participant responses than in dictionaries and newspaper corpora (Schulte-Beckhausen 2002: 207). The main results of Fischer's questionnaire-based study show that gender variation happens more frequently in monosyllabic anglicisms, particularly if the meaning of the English term is unknown (Fischer 2005: 287–289). Recently, Callies et al. (2010) have compared gender variation of anglicisms in German and Polish. One of their main results is that the items show an overall similar degree of variation in both languages. Callies et al. (2012) have further illustrated the limitations of linguistic corpora in studying gender variation when comparing corpus and experimental data.

All these studies emphasize that gender variation of anglicisms in German is indeed a palpable phenomenon when the intuitions of speakers are considered. As noted in passing in some studies, variation could be caused by competing associative schemas as well as social and regional factors (cf. Carstensen 1980: 6, 42; Onysko 2007: 174-177 and Schulte-Beckhausen 2002: 147-148). It is thus important to investigate these aspects of variation more closely. The following empirical investigation of gender variation aims to shed light on the connection between inter- and intra-speaker variation and gender schemas, the role of gen-

der copy (i.e. lexical-conceptual equivalence), and the amount of regional variation in three German-speaking areas.

3. Methodological design of the study

The present study is based on the methodological design of Calliese et al.'s (2010) comparative investigation of gender variation in German and Polish. The data were elicited by means of a questionnaire consisting of 26 sentences. Each of the sentences contained one anglicism, and participants had to fill in the German definite article(s) which they deemed appropriate. The test sentences were presented in three different orders in two test designs. As an addition to the test design in Callies et al. (2010), we introduced a variant format that does not elicit potential German equivalents. This allowed us to test whether thinking about a possible German equivalent exerts an influence on gender assignment (see section 4.1). Figures 2 and 3 provide snapshots of the questionnaires for both test designs.

1) Die Party war zuerst ziemlich lahm und langweilig, aber _____ laute **Techno** brachte sie dann so richtig zum Laufen.

☐ Ich kenne die Bedeutung des Wortes. Eine ungefähre deutsche Entsprechung ist z.B. das Wort _____ .

☐ Ich kenne die Bedeutung des Wortes nicht.
☐ Ich bin mir bezüglich der Bedeutung des Wortes unsicher.

Figure 2. Test item *Techno* in test design 1
(elicitation of possible German equivalents).

At the beginning of the task, an instruction sheet prompted participants to assign gender to the loanwords by providing the German definite article (*der/die/das*) in a spontaneous, intuitive manner, and two examples illustrated the instructions. Furthermore, the informants were invited to provide more than one gender if they considered it possible in the given context. In test design 1, the participants were further prompted to indicate whether they knew the meaning of the anglicism, were unsure about its meaning, or did not know the meaning. Finally, the respondents were asked to provide a German equivalent or near-equivalent.

14) Das Problem mit dem Werbespot für die neue Zahnpaste ist gar nicht mal der komplett sinnfreie Slogan, sondern eher _____ nervige **Jingle**.

22) Die Party war zuerst ziemlich lahm und langweilig, aber _____ laute **Techno** brachte sie dann so richtig zum Laufen.

Figure 3. Test items *Jingle* and *Techno* in test design 2 (no elicitation of German equivalents).

The questionnaires were distributed at four universities in the north, in the center, and in the south of the German-speaking area. Data were elicited from German students of English at these universities. In order to keep potential interference from other languages to a minimum, we only considered questionnaires by native speakers of German. The regional provenance of the speakers was determined according to their federal state of origin ("Herkunftsbundesland"), and we assigned the speakers to six large dialect areas (cf. Wiesinger 1983; König 2001): *Westniederdeutsch* 'West Low German', *Ostniederdeutsch* 'East Low German, *Westmitteldeutsch* 'West Middle German', *Ostmitteldeutsch* 'East Middle German', *Alemannisch* 'Alemannic', and *Bairisch-Österreichisch* 'Bavarian-Austrian'. Due to the locations of the universities where the study was conducted, we could gather data from a sufficient number of informants for the dialect areas of *Westniederdeutsch* (North; 175 speakers), *Westmitteldeutsch* (Center; 94 speakers), and *Bairisch-Österreichisch* (South; 181 speakers).

In total, we collected 506 questionnaires: 239 for test design 1 (T1; including the elicitation of German equivalents) and 267 for test design 2 (T2; excluding the elicitation of German equivalents). The mean age of the participants in T1 was 21.7 and 22.3 in T2. The distribution of female and male participants was 173 female and 66 male in T1 and 211 female and 56 male in T2. Thus, the participant groups were fairly homogenous in the two test conditions, with the exception of a slightly higher number of female respondents in condition 2. Standard statistics software (SPSS) was used for the data analysis. In order to calculate gender variation on the basis of the nominal variable of gender,[8] we used Simpson's D diversity index (cf. Müller-Benedict 2006: 113–114). In contrast to the range of variation, which only captures the number of gender categories, the diversity index indicates whether the answers are more or less evenly spread among the categories.[9] This makes the diversity index a more reliable

[8] Gender was defined as a nominal variable from 1 to 7: masculine = 1, feminine = 2, neuter = 3, masculine/neuter = 4, feminine/neuter = 5, feminine/masculine = 6, feminine/masculine/neuter = 7.

[9] Simpson's D diversity index considers the relative number of answers in the respective gender category, a concept also known as entropy in information theory, statistics, and corpus linguistics. The

measure for the purposes of the present study. To give an example, the anglicism *Sale* shows a range of six (i.e. answers were given in six of the seven possible categories), but masculine gender accounts for 88.7% of all the answers. Accordingly, an overall small D-value of 0.24 indicates slight variation. By contrast, *Login* has a smaller range of four categories, but the answers are more evenly spread among three of these categories. This amounts to a D-value of 0.82, indicating a high degree of variation.

The test items analyzed in the present study are adopted from Callies et al. (2010: 77–78). These anglicisms cover a range of different gender schemas in the German language as illustrated in Table 3.

In detail, Table 3 shows that the majority of the anglicisms belong to the schema of gender copy as it can be expected that variation is more pronounced in anglicisms without any explicit relation to morphological and semantic gender schemas. Among these items, there are several monosyllabic and polysyllabic anglicisms that do not have a straightforward German lexical equivalent. As far as the other gender schemas are concerned, expectations for variation are generally low for the sex-of-referent and generic person schemas as well as for the schemas involving suffix analogies. Among the semantic field analogies, the anglicisms representing the schemas of masculine for alcoholic beverages and for types of music could be potentially influenced by other associations as described in the third column of Table 3. The polymorphemic deverbal anglicisms are more likely to vary since, depending on their conceptualization as bounded individual entities or as continuative notions, their gender could alternate between masculine and neuter.

Apart from relating the anglicisms to specific gender schemas, we wanted to make sure that the test items were used frequently and were fairly recent. Therefore, we looked up all the anglicisms in *Duden Fremdwörterbuch* (4th edition, Dudenredaktion 2007) and ran a search in the *DWDS* corpora (in the balanced 100 million words corpus and in the 448 million words corpus of *Die Zeit*).[10] With the exception of *Bitch* and *Posting* all items are listed in *Duden Fremdwörterbuch*. At the same time, corpus evidence confirms that all words are used in written German.

The oldest loan dates from 1952 (*Crew*), and *Movie*, *Label*, *Take-off*, and *Voucher* first occurred in the 1970s. The remaining 21 test items have entered the language since the 1980s.

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calculated D-value is a figure between 0 (no variation, all answers fall into one category) and 1 (maximal variation, the answers are evenly spread among the categories for which answers are given).

[10] <http://www.dwds.de/textbasis> (Last accessed 23 Aug 2010.)

Table 3. Test items and their gender schemas.

Gender schemas	Test items	Potential conflicts / remarks
{(alcoholic) beverage → masculine}	*Alcopop*, *Shake*	*Alcopop* {gender trace: G. *Getränk* → neuter}; *Shake* {monomorphemic deverbal stem nouns → masculine}
{type of music → masculine}	*Techno*	{gender trace: G. *Musik* → feminine}
{collective of individuals → feminine}	*Crew*	
{*-er* → masculine}	*Browser*, *Voucher*	
{*-ing* → neuter}	*Casting*, *Posting*	
{polymorphemic deverbal stem nouns → masculine/ neuter}	*Download*, *Update*, *Take-off*, *Login*	Variation of gender possible due to different conceptualizations that affect gender assignment (see Section 2).
{sex of referent→ grammatical gender}	*Bitch*	The sex of the referent is tied to a conventionalized metaphorical sense extension of the original term in English.
{generic person → masculine}	*Coach*	
{gender copy} monosyllabic anglicisms	*Stage*, *Gate, Sale*, *Slot*, *Gig*, *Badge*	The selected anglicisms include items with basic conceptual equivalents: *Stage* (*Bühne*), *Sale* (*Verkauf*), *Gate* (*Tor*), and *Slot* (*Schlitz*); the items *Gig* and *Badge* have no close conceptual equivalents but several possible translational renderings.
{gender copy} polysyllabic anglicisms	*Domain*, *Movie*, *Preview*, *Label*, *Cookie*, *Jingle*	The selected anglicisms include one item (*Domain*) that has a German cognate (*Domäne*). *Movie* (*Film*) and *Preview* (*Vorschau*) show basic conceptual equivalence while *Cookie*, *Label*, and *Jingle* do not have close conceptual equivalents but possible translational renderings.

4. The relation of gender variation and gender schemas

The main part of this section will present an overview of the results and relate these implicationally to the different gender schemas that are held to account for gender assignment in the test items. Before proceeding with the analysis, however, it is crucial to examine whether the informants' reflection about German translational equivalents required in T1 has an influence on gender assignment and gender variation.

4.1. The role of eliciting German equivalents in gender variation

As described in section 3, T1 asks the respondents to provide German equivalents for the test items. Tapping into this kind of associations can give some evidence as to whether the gender of a potential German equivalent is more likely to be copied onto the gender of an anglicism. At the same time, the design of T1 may affect the answers in that respondents could feel inclined to adjust the gender of the anglicism to a German equivalent. Therefore, we used a parallel format of the questionnaire that does not ask for any lexical associations (T2). The D-values of gender variation for each test design (T1, 239 respondents; T2, 267 respondents) are provided in Table 4.

The D-values in Table 4 indicate that experimental design does not have a significant influence on the degree of gender variation in the test items. Anglicisms showing little or no variation in T1 reach similar values in T2, and items that vary more strongly also do so in both test designs. Only the values for *Voucher* have a slightly higher difference (0.13) in T1 and T2.

Since the individual D-values of the anglicisms measure the distribution of genders across categories, they fail to capture any potential discrepancies in gender assignment to anglicisms in T1 and T2. In order to detect such differences, we ran Chi-square tests for each anglicism, crossing test design with gender categories (including one merged class of multiple gender replies). The results basically support the inconspicuous differences found for the D-values in T1 and T2. Significant differences among the gender categories are only evident in *Voucher* ($p=0.02$) and *Badge* ($p=0.003$). In both instances, these significant effects are due to a decrease of masculine gender in T2 (*Badge*: T1 38.2% m. / T2. 26.3% m.; *Voucher*: T1 80.1% m. / T2 68.6% m.) and a concomitant increase of neuter gender (*Badge*: T1 29.2% n. / T2 42.1% n.; *Voucher*: T1 14.3% n. / T2 19.8% n.). While this shift is difficult to interpret, there are some indications, in particular for *Voucher*, that this change might have been induced by the

Table 4: Gender variation in T1 and T2.

Test item	D-value in T1	D-value in T2
Alcopop	0.51	0.60
Badge	0.82	0.82
Bitch	0.10	0.03
Browser	0.00	0.00
Casting	0.00	0.00
Coach	0.00	0.00
Cookie	0.73	0.74
Crew	0.00	0.02
Domain	0.30	0.37
Download	0.18	0.25
Gate	0.31	0.26
Gig	0.04	0.06
Jingle	0.54	0.50
Label	0.06	0.08
Login	0.92	0.83
Movie	0.75	0.75
Posting	0.04	0.09
Preview	0.69	0.69
Sale	0.24	0.26
Shake	0.18	0.16
Slot	0.23	0.27
Stage	0.13	0.14
Take-Off	0.60	0.68
Techno	0.57	0.56
Update	0.15	0.15
Voucher	0.45	0.58

presence of a lexical equivalent: On the one hand, the majority of respondents do not provide any lexical equivalent for *Voucher* (42.9%) and *Badge* (38.3%). On the other hand, the masculine equivalent *Gutschein* for *Voucher* is mentioned by 41.6% of the participants in T1. While it is thus probable that there is an equivalent effect for *Voucher*, this is much less evident in *Badge* where a potential effect of the most frequently mentioned equivalent *Anstecker* (m.; 'stick-

er, badge'; 14.8%) is counter-balanced by the next frequent neuter German terms of *Zeichen* ('sign'; 8.2%) and *Schild* ('tag'; 8.2%).

Due to this inconclusive evidence for *Voucher* and *Badge* and because of the generally similar D-values of the test items in T1 and T2, the conclusion can be drawn that the elicitation of German equivalents does not have a significant effect on gender assignment and variation in T1. Accordingly, the data on gender assignment and variation are equally viable in both conditions and can be merged for establishing the general amount of gender variation for the individual anglicisms. The next section will focus on these results.

4.2. Overall results of gender variation

The results of the gender assignment task are presented in Table 5. The table shows the frequencies of replies in the seven gender categories and the D-value as a measure of gender variation for each of the test items. The gender most frequently assigned to an anglicism and all the D-values are highlighted in bold. Items with a high degree of variation are shaded.

Table 5 shows considerable variation for many of the test items. The anglicisms *Coach*, *Browser*, *Casting*, *Posting*, *Label*, *Gig*, *Bitch*, and *Crew* exhibit a D-value of less than 0.1 and can thus be rated as having invariable gender. For all these terms, 95% of all the respondents have chosen the same gender. Explanations for these choices can be given when the anglicisms are related to their gender schemas. In *Bitch* the schema {sex of referent → grammatical gender} is confirmed as associatively strong just as {generic person → masculine} in *Coach*. The same is true for the suffix analogies of {*-er* → masculine} in *Browser* and {*-ing* → neuter} in *Casting* and *Posting*. *Crew* falls in line with the semantic field analogy of {collective of individuals → feminine}. In addition, feminine gender in *Crew* most likely gains support by the feminine gender of its basic lexical-conceptual equivalents.[11] As it is the oldest loan among the test items, its gender has become firmly conventionalized in German. While *Gig* falls in line with the masculine tendency of monosyllabic anglicisms, its masculine gender is most likely motivated by the convention of gender copy. In this case, the masculine German equivalent *Auftritt* is mentioned in 78.3% of all answers in T1 while the second most frequent neuter German term *Konzert* ac-

[11] Among a total of 252 lexical equivalents given in T1, the feminine German equivalents of *Mannschaft* (47.2%) and *Besatzung* (30.1%) account for the vast majority of responses, and the total share of feminine German equivalents accounts for 86.1% of all answers.

Table 5: Frequency and variation of gender.

Anglicism	Assigned gender (as absolute numbers and percentages in brackets)								Variation
	fem.	*masc.*	*neut.*	*m/n*	*f/m*	*f/n*	*f/m/n*	*no answ.*	*div.index (D)*
Alcopop	1 (0.2)	**382 (75.5)**	77 (15.2)	43 (8.5)				3 (0.6)	**0.52**
Badge	115 (22.7)	159 (31.4)	**180 (35.6)**	34 (6.7)	2 (0.4)	7 (1.4)	2 (0.4)	7 (1.4)	**0.83**
Bitch	**497 (98.2)**	7 (1.4)			2 (0.4)				**0.05**
Browser		**506 (100)**							**0.00**
Casting			**506 (100)**						**0.00**
Coach		**506 (100)**							**0.00**
Cookie	9 (1.8)	**291 (57.5)**	169 (33.4)	37 (7.3)					**0.74**
Crew	**505 (99.8)**		1 (0.2)						**0.01**
Domain	**424 (83.8)**	32 (6.3)	35 (6.9)	7 (1.4)	3 (0.6)	3 (0.6)	1 (0.2)	1 (0.2)	**0.33**
Download		**466 (92.1)**	21 (4.2)	18 (3.6)				1 (0.2)	**0.22**
Gate	6 (1.2)	38 (7.5)	**441 (87.2)**	18 (3.6)	1 (0.2)	2 (0.4)			**0.28**
Gig		**496 (98.0)**	6 (1.2)	3 (0.6)	1 (0.2)				**0.05**
Jingle	37 (7.3)	**372 (73.5)**	60 (11.9)	27 (5.3)	4 (0.8)	3 (0.6)	2 (0.4)	1 (0.2)	**0.51**
Label		4 (0.8)	494 (97.6)	8 (1.6)					**0.07**
Login		**245 (48.4)**	175 (34.6)	85 (16.8)	1 (0.2)				**0.82**
Movie	2 (0.4)	**246 (48.6)**	223 (44.1)	34 (6.7)				1 (0.2)	**0.75**
Posting	1 (0.2)	8 (1.6)	**494 (97.6)**	3 (0.6)					**0.06**
Preview	**288 (56.9)**	49 (9.7)	146 (28.9)	11 (2.2)	2 (0.4)	9 (1.8)	1 (0.2)		**0.68**
Sale	9 (1.8)	**449 (88.7)**	20 (4.0)	22 (4.3)	3 (0.6)		1 (0.2)	2 (0.4)	**0.24**
Shake		**475 (93.9)**	17 (3.4)	13 (2.6)				1 (0.2)	**0.17**
Slot	3 (0.6)	**454 (89.7)**	30 (5.9)	18 (3.6)				1 (0.2)	**0.25**
Stage	**476 (94.1)**	12 (2.4)	12 (2.4)			2 (0.4)		4 (0.8)	**0.13**
Take-off		**366 (72.3)**	102 (20.2)	37 (7.3)				1 (0.2)	**0.64**
Techno	42 (8.3)	**358 (70.8)**	77 (15.2)	19 (3.8)	3 (0.6)	2 (0.4)		5 (1.0)	**0.55**
Update	2 (0.4)	14 (2.8)	**478 (94.5)**	12 (2.4)					**0.14**
Voucher	19 (3.8)	**362 (71.5)**	84 (16.6)	20 (4.0)	2 (0.4)		2 (0.4)	17 (3.4)	**0.50**

counts for 11.9% of all equivalents. Similarly, the predominantly neuter gender of *Label* is partly grounded in lexical-conceptual equivalence as the neuter German term *Zeichen* is by far the most frequently associated equivalent (40.7%). Other neuter terms of *Logo* (14.1%) and *Etikett* (6.1%) bring the total amount of neuter equivalents to 60.8%.

Besides these gender-invariable anglicisms, eight items in the test set show a fairly low degree of variation as indicated by a range of D-values between 0.1 and 0.4. In order of increasing D-values these are *Stage* (0.13), *Update* (0.14), *Shake* (0.17), *Download* (0.22), *Sale* (0.24), *Slot* (0.25), *Gate* (0.28), and *Domain* (0.33). With 94.1% of feminine gender *Stage* comes very close to being an invariable anglicism in the study. This can be explained by means of gender copy, as 99.3% of the participants in T1 mention the feminine German term *Bühne* as a lexical conceptual equivalent. *Update* is a similar instance of a nearly invariable-gender anglicism as neuter gender is assigned in 94.5% of all answers. In this case, the convention of gender copy does not apply as among a total range of 27 German lexical equivalents, the three most prominent ones all bear feminine gender (*Aktualisierung* 'update' 32.9%, *Erneuerung* 'renovation' 29.8%, and *Version* 'version' 8.3%). Instead, a general motivation for neuter gender of *Update* follows from the schema {polymorphemic deverbal stem nouns → masculine/neuter}. Following Bittner's (2001: 11) observation, *Update* seems to be conceptualized as a process, thus triggering neuter gender.

The reverse happens in the example of *Download* which strongly favors masculine gender (92.1%) while relying on the same conversion schema of {polymorphemic deverbal stem nouns → masculine/neuter}. In this case, the predilection of masculine gender seems to be grounded in a conceptual focus on the item that is downloaded (i.e. an electronic file).

Shake is another anglicism that is almost invariably tied to a certain gender (93.9% masculine), which is due to the conversion schema of {monomorphemic deverbal stem nouns → masculine}. Further associative support for masculine gender might come from the semantic schema of {alcoholic beverages → masculine} even though the traditional meaning of this borrowing relates to a non-alcoholic milk shake. A look at the most frequent lexical equivalents of the anglicism disproves any decisive influence of gender copy since neuter German *Getränk* ('drink') is mentioned in 77.6% of all the responses. The gender of this German hyperonym can at best be held responsible for the small amount of variation between masculine and neuter (3.4%) and the co-occurrence of both genders (2.6%).

In *Sale*, *Slot*, *Gate*, and *Domain* the amount of variation is slightly higher as the most frequently mentioned gender category falls into a range of between

80% and 90%. The masculine gender of *Sale* (88.7%) is motivated by the conversion schema of {monomorphemic deverbal stem nouns → masculine}, and lexical-conceptual associations of the respondents provide unanimous support for that choice. Thus, 95.9% of all the participants in T1 mention *Verkauf*, which takes masculine by the same conversion schema. The small occurrence of neuter (4.0%) and the tolerance of both masculine and neuter (4.3%) can most likely be motivated by a possible conceptualization of *Sale* as a process, i.e. a continuative notion.

The gender most frequently assigned to *Slot* (masculine, 89.7%) finds some motivation in the copying of gender from German lexical-conceptual equivalents: 61.8% of all answers in T1 give *Schlitz* (m.) as a possible German counterpart. This proportion increases to a total of 85.3% if all masculine German equivalents from a total range of 21 equivalents are considered. In view of that, it is difficult to find an explanation for the small amount of neuter gender (5.9%) and double masculine/neuter attributions (3.6%). *Gate* shows a strong preference for neuter gender (87.2%) with some variation to masculine (7.5%) and a few responses mentioning both neuter and masculine (3.6%). The most frequently chosen German equivalent (38.2%) is the neuter term *Tor*, which suggests the copying of neuter gender. However, a more solid empirical link to gender copy cannot be established since the sum of non-neuter equivalents (among a wide range of 31 different lexical items) actually supersedes neuter gender terms.

The example of *Domain* adds to the complexities of gender copy. As Table 5 indicates, *Domain* exhibits a strong preference for feminine gender (83.8%) with some vacillation towards neuter (6.9%) and masculine (6.3%). At first sight, feminine gender seems to tie in nicely with the cognate principle (→ G. *Domäne*) as the strongest manifestation of lexical-conceptual equivalence. However, the cognate effect is not directly evident in the lexical equivalents given in T1. In fact, 40% of all respondents do not provide any German equivalent even if the meaning of the anglicism is rated as known. The most frequently mentioned equivalent is German *Adresse* (f.) although the German term does not really render the meaning of *Domain*. While the lack of the direct mention of German *Domäne* can be interpreted as undermining cognate-based gender association, it is important to bear in mind that the German meaning of *Domäne* has not been extended to the specific IT usage context. It is not a viable translational equivalent despite its cognate status. In this sense, the cognate-effect could still trigger feminine gender even though the choice of a possible lexical-semantic equivalent does not rely on the German cognate.

Finally, among the 26 test items, ten anglicisms show a D-value of 0.5 and higher, which is indicative of a fairly high degree of gender variation. These anglicisms are shaded in Table 5. Ordered according to increasing D-values they are: *Voucher* (0.50), *Jingle* (0.51), *Alcopop* (0.52), *Techno* (0.55), *Take-off* (0.64), *Preview* (0.68), *Cookie* (0.74), *Movie* (0.75), *Login* (0.82), and *Badge* (0.83). The notable variation of *Alcopop* between masculine (75.5%), neuter (15.2%), and masculine/neuter (8.5%) is indicative of two alternative schemas of gender assignment. First of all, the preference for masculine could be motivated by the semantic schema of {alcoholic beverage → masculine}. Neuter gender, on the other hand, can be related to the convention of gender trace. This means that the gender of the associatively complete form of the anglicism (*Alcopop-[Getränk]*; i.e. G. *das Getränk* 'drink') determines the neuter gender of the anglicism. The convention of gender trace can also account for the non-dominant choice of feminine gender in *Techno* (70.8% m., 15.2% n., 8.3% f.). In this case, association with the superordinate term *Musik* (f.; cf. *die Techno-Musik*) can cause associations with feminine gender. The most popular gender of *Techno* is an instantiation of the semantic schema {type of music → masculine}. As far as neuter gender is concerned, the absence of any gender schemas and the lack of neuter lexical equivalents[12] allow only a tentative explanation for the actual use of neuter in line with normative usage guidelines: the major *Duden* dictionaries, *Duden – das große Fremdwörterbuch* (DF) and *Duden – Deutsches Universalwörterbuch* (DU) give "*das* oder *der*" ('n. or m.'), as possible gender variants, promoting the use of neuter gender. However, whether the mention of neuter gender in the *Duden* dictionaries actually has an effect on the variation of gender in the experiment remains doubtful since an analysis of five German and seven Austrian newspapers covering the period of 1996 to 2010[13] do not yield a single use of *Techno* with neuter gender (Callies et al. 2012: 81). Thus, neuter gender variants do not seem to be promoted in standard media of German despite its inclusion in the *Duden* reference works.

The fairly pronounced variation of *Voucher* between masculine (71.5%), neuter (16.6%), and masculine/neuter (4.0%) might at first sight come as a surprise in view of the fact that the suffix schema {*-er* → masculine} proves to be one of the most perspicuous in the German lexicon. Indeed, the occurrence of neuter gender among the responses may be taken as evidence that not all speak-

[12] No neuter German equivalents were given by the respondents in T1.

[13] The newspapers amount to a total of 805,163,824 words and were accessed as part of the large German corpus COSMAS IIweb <http://cosmas2.ids-mannheim.de/cosmas2-web> in Callies et al. (2012).

ers interpret *-er* as a separate morpheme but perceive the term as monomorphemic.

The relatively high amount of variation in *Take-off* between masculine (72.3%), neuter (20.2%), and masculine/neuter (7.3%) and, even more so, in *Login* (48.4% m., 34.6% n., 16.8% m./n.) ties in with the basic flexibility in conceptualizing *Login* as an entity (individuative – masculine) or as a process (continuative – neuter) as expressed in the schema of {polymorphemic deverbal stem nouns → masculine/neuter}. A conceptualization of *Take-off* as a bounded, individuative entity (i.e. as one discrete stage of a flight) speaks in favor of masculine gender whereas neuter gender is given preference when *Take-off* is conceptualized as the process of taking off. In other words, the diverse conceptualizations relate to the perspective of the speaker (or the vantage point in Langacker's terms; cf. 2009: 75). If a speaker takes an external, observant perspective to the process of a flight, the starting phase can be conceived of as a discrete subpart of the larger entity. If, on the other hand, the speaker views the scene from an involved participant perspective, the take off can be conceived of as an ongoing process. In the example of *Take-off*, masculine gender receives additional associative strength via gender copy from an older English loan, *der Start*, which bears masculine gender according to {monomorphemic deverbal stem nouns → masculine}.

The notable amount of variation in *Jingle*, *Cookie*, *Preview*, and *Badge* is most likely inspired by the lack of any attested semantic and morphological gender schemas, which opens up the floor for basic conceptualizations and (constructed) relations to associable lexical conceptual equivalents. To start with *Badge* as the item that shows the highest amount of variation in the study (35.6% n., 31.4% m., 22.7% f., 6.7% m./n.), evidence from T1 indicates that this variation is indeed due to the absence of any semantic and morphological schemas and the lack of basic conceptual equivalents in German. Thus, 38.3% of all respondents do not provide any equivalents, and the three most consistently mentioned possible German equivalents from a total range of 27 show fairly low percentages: *Anstecker* (m.; 'tag, badge' 14.8%), *Zeichen* (n.; 'sign' 8.2%), and *Schild* (n.; 'tag', 8.2%). Similarly, variation in *Cookie* (57.5% m., 33.4% n., 7.3% m./n.) coincides with the lack of attested gender schemas and conventions and with an absence of German equivalents. 70.1% of all the respondents in T1 disregard the equivalent prompt in the questionnaire, and the literal translation of *Cookie* as G. *Keks*, (8.7%) as well as the term *Datei* ('file', 7.1%) are the most frequent choices among a range of 28 terms.

A similarly mixed picture emerges in the case of *Jingle* (73.5 % m., 11.9% n., 7.3% f., 5.3% m./n.) where no direct evidence of gender choice can be

gleaned from the range of 28 lexical equivalents (e.g., *Melodie* f. 'melody' 24.3%, *Lied* n. 'song' 15.8%, *Musik* f. 'music' 17.4%). In *Preview*, on the other hand, the German equivalents give some tentative support to the prevalence of feminine gender (56.9% f., 28.9% n., 9.7% m.). Thus, the literal German translation *Vorschau* (f.) is mentioned in 81.6% of all responses, clearly dominating the other frequent equivalents of *Erstausstrahlung* (f.; 'first transmission', 5.3%) and *Vorspann* (m.; 'opening credits', 3.7%).

Of all the test items in the study, the fairly equal gender distribution between masculine (48.6%) and neuter (44.1%) in *Movie* is difficult to explain in terms of gender schemas. Even though *Movie* shares a basic conceptual overlap with German *der Film*,[14] thus supporting a transfer of masculine gender, the almost equal amount of neuter gender cannot be related to a gender schema. The only motivation for neuter can be traced in reference works such as the *Duden* dictionaries DF and DU, which only list neuter gender in their entries of *Movie* and neglect the actual usage of masculine gender. In this case, evidence from newspapers in Austria and Germany indeed prove the occurrence of neuter gender, which is exclusively used in the selection of German newspapers and is still twice as frequent as masculine in the Austrian newspapers (Callies et al. 2012: 81).

To sum up, interpreting the attested variation in terms of underlying schemas of gender assignment unveils a complex picture of intertwining factors for many of the individual test items. Nevertheless, a few main tendencies can be generalized from the results. First of all, items that regularly cohere with one of the major morphological and semantic schemas selected for the study tend towards invariable gender assignment (*Browser*, *Casting*, *Posting*, *Bitch*, and *Coach*). In the absence of other morphological and semantic gender schemas, the convention of gender copy (as basic lexical-conceptual equivalence) determines mostly stable gender assignment in *Label*, *Gig*, *Stage*, and *Slot*. In the example of *Crew*, gender copy works alongside a semantic schema reinforcing invariable gender. However, the results also show that gender copy is not a fallback criterion for all gender attribution when semantic and morphological schemas do not apply. In the example of *Movie*, gender variation is hard to explain and can only be speculated upon as an instance of competition between gender copy and prescribed gender.

Furthermore, the results indicate that even if lexical-conceptual equivalence clearly points towards one gender, the anglicism can actually show a high amount of variation, as in *Preview*. A further general finding is related to the

[14] 99.1% of all respondents in T1 mention *Film* as an equivalent term.

fact that considerable variation can emerge from the possible interplay of different factors. Thus, in combination with major semantic schemas, gender trace has the potential to cause some variation in *Techno* and *Alcopop* while the gender promoted in reference works might interfere with gender schemas in *Techno* and *Voucher*. As far as basic conceptualizations of gender categories are concerned, some of the selected test items are a testament to Bittner's and Vogel's observations (see Section 2). Thus, the high amount of variation in *Login* and *Take-off* follows from a conversion schema where the selection of either masculine or neuter can depend on the conceptualization of the term as a continuative process or as a bounded entity. A final tendency emerging from the results is that the lack of clear morphological and semantic schemas together with the absence of basic lexical-conceptual equivalents in German inspires higher amounts of variation in more recent anglicisms such as *Jingle*, *Cookie*, and *Badge*.

Altogether, this section has demonstrated the complexity of factors motivating gender assignment and their interplay as a potential source of variation. While this approach targets a basic cognitive dimension of grammatical gender, a more comprehensive picture of gender variation has to take into account the potential influence of sociolinguistic factors. The final section of this paper will explore this issue in more detail.

5. The impact of dialect areas on gender variation in anglicisms

An additional objective of this study was to test whether or not the gender of anglicisms varies across the German-speaking areas, as has sometimes been observed on an intuitive basis in previous research on anglicisms. In order to provide an overview of regional differences, we calculated the individual D-values for all test items in the regions of *Westniederdeutsch* 'West Low German' (North), *Westmitteldeutsch* 'West Middle German' (Center), and *Bairisch-Österreichisch* 'Bavarian-Austrian' (South). For each of these regions, we were able to collect a sufficient number of questionnaires for statistical processing of the data: North: 175, Center: 94, and South: 181. Since the generally smaller number of male participants is not distributed evenly among the regions (North 28.6%, Center 24.5%, and South 19.3%), we controlled for a possible influence of female and male participants by running a Chi-square test crossing region and sex. No significant relation between these variables was found so that the results in Table 6 for the eighteen anglicisms which show some variation among the test items (i.e. their D-value is larger than 0.1), illustrate regional patterns of variation. The items are listed in the table according to their variation from low

to high D-values. For each anglicism, the highest regionally specific value is printed in bold.

Table 6. Regionally specific gender variation of anglicisms.

Anglicisms	Variation in D			
	Overall	North (*Westniederdeutsch*)	Center (*Westmitteldeutsch*)	South (*Bairisch-Österreichisch*)
Stage	0.13	0.12	0.12	**0.18**
Update	0.14	**0.16**	0.12	**0.16**
Shake	0.17	0.15	**0.29**	0.14
Download	0.22	0.20	0.09	**0.29**
Sale	0.24	**0.32**	0.24	0.20
Slot	0.25	0.22	0.24	**0.31**
Gate	0.28	0.14	0.15	**0.53**
Domain	0.33	0.18	0.24	**0.56**
Voucher	0.50	**0.58**	0.56	0.39
Jingle	0.51	**0.61**	0.54	0.44
Alcopop	0.52	0.50	0.51	**0.73**
Techno	0.55	**0.64**	0.56	0.36
Take-off	0.64	0.60	0.51	**0.74**
Preview	0.68	0.58	0.66	**0.78**
Cookie	0.74	0.61	0.66	**0.77**
Movie	0.75	0.75	**0.88**	0.74
Login	0.82	0.89	0.78	**0.96**
Badge	0.83	0.83	**0.89**	0.83

Table 6 shows that the regionally specific D-values suggest a tendency for more variation in the South. Ten of the eighteen anglicisms have their highest D-values in the southern German-speaking area while the Center (*Westmitteldeutsch*) shows three top values and the North (*Westniederdeutsch*) four. In seven anglicisms the indices of variation are most distant between the North and the South with the Center numerically located in-between. A difference between the South (mostly speakers of Austrian German) and the other German dialect areas also emerges when the D-values for each anglicism are compared. Thus,

the North and the Center are similar in ten anglicisms (difference in D-value <0.1), whereas the North and the South only overlap in four test items and the Center and the South merely share a similar D-value in the anglicism *Sale*.

When testing these regional differences for significance, results of a Chi-square test crossing gender and region yield significant results for six test items ($p < 0.05$: *Voucher* and *Login*; $p < 0.01$: *Domain*, *Preview*, *Cookie*, and *Gate*). The significant result of *Voucher* is due to a preference for masculine gender in the South (82.3%) and lower values of neuter (10.9%) as compared to the North (70.2% m., 20.5% n.) and the Center (74.2% m., 15.7% n.). In addition, the Center shows a higher amount of feminine gender (7.9%, compared with 3.5% in the North and 2.3% in the South). The significant variation in *Login* is mostly caused by the participants in the central German-speaking region. Masculine gender is most frequently assigned in the Center (57.4%) compared to 48.6% in the North and 45.3% in the South. On the other hand, neuter is less frequent in the Center (22.3%) compared with 39.4% in the North and 33.7% in the South. The low percentage of multiple gender replies in the North (12.0% compared to 20.2% in the Center and 21.0% in the South) adds to the significant variation of *Login*. It is difficult to interpret this difference further as it generally relates to the schema-based variation between masculine and neuter.

The possible divide between the Southern and the other German-speaking areas is highly significant in *Cookie* and *Gate*. In both anglicisms, it is variation between masculine and neuter gender that accounts for the marked difference. Thus, *Cookie* shows a lower amount of masculine gender in the South (40.9%) compared with the Center (66.0%) and the North (70.3%). Speakers in the South prefer neuter (49.7%) instead, which is far less popular in the Center (25.5%) and the North (21.7%). In the example of *Gate*, the Center and the North unanimously choose neuter gender (94.3% and 94.7%). In the South, on the other hand, a markedly higher proportion of masculine gender for *Gate* (17.1%) stands in opposition to neuter gender (75.7%).

The significant values for *Domain* and *Preview* emphasize the regional difference between the South and the other German-speaking areas. In this case, the South exhibits more frequent choices of masculine and neuter gender at the expense of feminine, which is dominant in the Center and the North.[15] A generally less frequent use of feminine gender in the South is tendentiously but not

[15] The regionally specific values for *Domain* are: South (70.7% f., 13.3% n., 12.2% m.); Center (89.4% f., 1.1% n., 7.4% m.); North (92.6% f., 4.0% n., 1.7% m.). The regionally specific values for *Preview* are: South (39.8% f., 37.6% n., 16.0% m.); Center (62.8 f., 27.1% n., 6.4% m.), North (68.6% f., 20.6% n., 7.4% m.).

significantly evident in all the other items in Table 6, which have a share of feminine gender above the five percent mark in any of the three dialect areas (*Badge*, *Jingle*, *Techno*, *Voucher*, *Stage*[16]).

In sum, the investigation into regional differences has uncovered a hidden rift between the South (primarily consisting of Austrian German varieties) and more central and northern German regions. There is some statistical support for a tendency of greater variation in the South and for the fact that the D-values are consistently different between the South and the rest of the German-speaking area. At the same time, indices of gender variation are of near equal measure between the North and the Center in the majority of the test items. A noticeable amount of this variation is due to gender vacillation between neuter and masculine although no general preference for the one or the other gender can be found across the different regions.

It is difficult at this point to find a conclusive motivation for the attested regional differences. In general, a higher amount of variation among speakers of Austrian German could indicate that these speakers are less familiar with the selected anglicisms or that they are more tolerant of gender variation. Since there are no significant differences in the amount of lexical equivalents given to the anglicisms across all German-speaking regions, lack of familiarity with these anglicisms cannot be confirmed as a potential reason for more variation in the South. Why speakers of Austrian German are more open to gender variation could thus, at best, be interpreted as a sign of difference between the use of Standard German in the South, particularly in Austria, and in central and northern areas of Germany. Investigating the role of the media in the spread of regionally different standard norms could provide further insight into this issue.

6. Conclusion

This study has provided a detailed perspective on gender variation in a selected set of fairly recent but established anglicisms in German. The empirical investigation highlights the complexities and the myriad of factors involved in the assignment of gender and its variation. At the same time, this approach has enabled us to test some of the previously established gender patterns, and it demon-

[16] *Badge*: North (29.9% f.), Center (25.8% f.), South (16.5% f.); *Jingle*: North (10.9% f.), Center (5.3% f.), South (4.4% f.); *Techno*: North (12.1% f.), Center (7.4% f.), South (7.3% f.); *Voucher*: North (3.9% f.), Center (7.9% f.), South (2.3% f.); *Stage*: North (96.0% f.), Center (95.7% f.), South (92.7% f.).

strates that gender variation is far more pronounced when taking into account speakers' intuitions rather than written sources. This has larger implications for the compilation of major German dictionaries, which do not always give full credit to gender variation of anglicisms in German as observed here.

In our theoretical discussion, we have argued that gender assignment can be viewed in terms of cognitive schemas that can have individual associative strength regardless of their more general characterization as phonological, morphological, and semantic schemas. This schema-based approach to gender assignment is derived from findings of earlier research, and an overall list of common gender schemas and gender conventions portrays attested associative motivations for gender assignment to English loans. Among the various factors, a lexical-conceptual relation to the gender of a German near-equivalent (a convention labelled gender copy in our study) remains the most controversial notion of gender assignment specific to the language contact situation. As an extension to previous research, we conceive of gender copy as a continuum of lexical-conceptual equivalence that ranges from high (cognates) to low associative strength (choice of gender among translational equivalents). While some of the test items chosen for the experimental task can successfully be explained by gender copy, future research needs to empirically validate this understanding of lexical-conceptual equivalence and gender assignment. Furthermore, the mixed results of gender copy for a few test items indicate that lexical conceptual equivalence is not always a fall-back criterion for language users in the absence of other gender schemas (as proposed in Gregor 1983).

The experimental part of our study has investigated a number of factors that cause variation. First of all, a non-significant difference of gender assignment in the two complementary test designs has shown that the additional task of finding German equivalents did not bias the results.

The results were then related to individual gender schemas highlighting the associative strength of individual morphological and semantic schemas. The different degrees of variation are partly due to differences in basic conceptualizations of converted deverbal anglicisms and to conflicts between gender schemas and the conventions of gender trace and gender copy. In general, the schema-based analysis of gender variation confirms the hypothesis that variation tends to be higher in anglicisms whose gender is not motivated by morphological, semantic, and phonological schemas and that do not conceptually overlap with a specific German term.

In terms of regional differences, a comparison of the diversity indices across three major German dialect areas yields generally higher amounts of variation in the South. This is also confirmed by a close analysis of the six regionally signif-

icantly different anglicisms in the test set. These findings offer some empirical evidence for previous fleeting observations on differences in the gender of anglicisms in southern (particularly Austrian German) dialect areas.

Finally, it is also important to mention that, despite shedding new light on the issue of loanword gender in German, this study also paves the way for new questions to be addressed in future investigations. Thus, a major research objective would involve testing the cognitive relevance of the attested schemas, particularly trying to tease apart their varying levels of associative strength. A follow-up study could also be devoted to the diverse conceptualizations of anglicisms as entities or processes and their impact on gender variation. Furthermore, the various explanations that partly illuminate the causes of variation would have to be replicated with different test items that probe for particular factors at a time.

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REFERENCES

Arndt, W. 1970. "Nonrandom assignment of loanwords: German noun gender". *Word* 26. 244–253.

Audring, J. 2006. Constraint competition in gender assignment to loanwords. (Unpublished ms., Vrije Universiteit Amsterdam.)

Bittner, D. 2001. "The definite articles in German. What are the features creating an underspecified paradigm?" In: Rauch, I. and G.F. Carr (eds.), *New insights in Germanic linguistics II*. New York: Peter Lang. 1–21.

Bloomfield, L. 1933. *Language*. New York: Holt.

Busse, U. 1993. *Anglizismen im Duden*. Tübingen: Niemeyer.

Bybee, J. 1985. *Morphology.* Amsterdam and Philadelphia: Benjamins.

Bybee, J. 2001. *Phonology and language use*. Cambridge: Cambridge University Press.

Bybee, J. 2010. *Language, usage and cognition*. Cambridge: Cambridge University Press.

Callies M., E. Ogiermann and K. Szcześniak. 2010. "Genusschwankungen bei der Integration von englischen Lehnwörtern im Deutschen und Polnischen". In: Scherer, C. and A. Holler (eds.), *Strategien der Integration und Isolation nicht-nativer Einheiten und Strukturen*. Berlin and New York: De Gruyter. 65–86.

Callies M., A. Onysko and E. Ogiermann. 2012. "Investigating gender variation of English loanwords in German". In: Pulcini, V., F.R. González and C. Furiassi (eds.), *The Anglicization of European lexis*. Amsterdam: Benjamins. 65–89.

Carstensen, B. 1965. *Englische Einflüsse auf die deutsche Sprache nach 1945*. Heidelberg: Winter.

Carstensen, B. 1980. "Das Genus englischer Fremd- und Lehnwörter im Deutschen". In: Viereck, W. (ed.), *Studien zum Einfluß der englischen Sprache auf das Deutsche*. Tübingen: Narr. 37–76.

Chan, S.-M. 2005. *Genusintegration: Eine systematische Untersuchung zur Genuszuweisung englischer Entlehnungen in der deutschen Sprache*. München: Iudicium.

Corbett, G. 1991. *Gender*. Cambridge: Cambridge University Press.

COSMAS IIweb <http://www.ids-mannheim.de/cosmas2/web-app> (July 2011).

Doleschal, U. 2004. *Genus als grammatische und textlinguistische Kategorie. Eine kognitiv- funktionalistische Untersuchung des Russischen*. München: Lincom.

Doleschal, U. 2000. "Gender assignment revisited". In: Unterbeck, B., M. Rissanen, T. Nervalainen and M. Saari, *Gender in grammar and cognition*. Berlin and New York: De Gruyter. 117–165.

Dudenredaktion (eds.). 2006. *Duden – Deutsches Universalwörterbuch*. (6th ed.) Mannheim: Bibliographisches Institut & F. A. Brockhaus AG.

Dudenredaktion (eds.). 2007. *Duden – Das große Fremdwörterbuch*. (4th ed.) Mannheim: Bibliographisches Institut & F. A. Brockhaus AG.

Eisenberg, P. (ed.). 1998. *Duden – Grammatik der deutschen Gegenwartssprache*. (6th ed.) Mannheim & Wien: Dudenverlag.

Fink, H. 1968. Amerikanismen im Wortschatz der deutschen Tagespresse, dargestellt am Beispiel dreier überregionaler Zeitungen. (Dissertation, Universität Mainz.)

Fischer, R.-J. 2005. *Genuszuordnung. Theorie und Praxis am Beispiel des Deutschen*. Frankfurt am Main: Peter Lang.

Glahn, R. 2002. *Der Einfluss des Englischen auf gesprochene deutsche Gegenwartssprache*. Frankfurt am Main: Peter Lang.

Gregor, B. 1983. *Genuszuordnung: Das Genus englischer Lehnwörter im Deutschen*. Tübingen: Niemeyer.

Haugen, E. 1950. "The analysis of linguistic borrowing". *Language* 26. 210–231.

König, W. 2001. *dtv-Atlas Deutsche Sprache*. München: DTV.

Köpcke, K.-M. 1982. *Untersuchungen zum Genussystem der deutschen Gegenwartssprache*. Tübingen: Niemeyer.

Köpcke, K.-M. and D. Zubin. 1983. "Die kognitive Organisation der Genuszuweisung zu den einsilbigen Nomen der deutschen Gegenwartssprache". *Zeitschrift für germanistische Linguistik* 11. 166–182.

Köpcke, K.-M. and D. Zubin. 1996. "Prinzipien für die Genuszuweisung im Deutschen". In: Lang, E. and G. Zifonun (eds.), *Deutsch – typologisch*. Berlin and New York: De Gruyter. 473–491.

Lang, A. 1976. "The semantic base of gender in German". *Lingua* 40. 55–68.

Langacker, R. 1999. *Grammar and conceptualization*. Berlin and New York: De Gruyter.
Langacker, R. 2009. *Cognitive Grammar: A basic introduction*. Oxford: Oxford University Press.
Maratsos, M. 1979. "Learning how and when to use pronouns and determiners". In: Fletcher, P. and M. Garman (eds.), *Language acquisition*. Cambridge: Cambridge University Press. 225–240.
Müller-Benedict, V. 2006. *Grundkurs Statistik in den Sozialwissenschaften*. Wiesbaden: Verlag für Sozialwissenschaften.
Neumann, A. 2001. Sprachverarbeitung, Genus und Aphasie: Der Einfluß von Genustransparenz auf den Abruf von Genusinformation. (Dissertation, Humboldt Universität Berlin.)
Nesset, T. 2006. "Gender meets the usage-based model: Four principles of rule interaction in gender assignment". *Lingua* 116. 1369–1393.
Onysko, A. 2006. "Gender assignment of Anglicisms in German". *Interdisciplinary Journal of Germanic Linguistics and Semiotic Analysis (IJGLSA)* 11(2). 163–193.
Onysko, A. 2007. *Anglicisms in German: Borrowing, lexical productivity, and written codeswitching*. Berlin and New York: De Gruyter.
Rice, C. 2006. "Optimizing gender". *Lingua* 116. 1394–1417.
Salmons, J. 1993. "The structure of the lexicon: Evidence from German gender assignment". *Studies in Language* 17(2). 411–435.
Scherer, C. 2000. Vom Fremdwort zum Lehnwort: Eine Untersuchung zur morphologischen Anpassung im Gegenwartsdeutschen. (Magisterarbeit, Universität Marburg.) <http://www.germanistik.uni-mainz.de/linguistik/mitarbeiter/scherer/publikationen/pub-fremdwort.pdf>
Schiller, N. and A. Caramazza. 2006. "Grammatical gender selection and the representation of morphemes: The production of Dutch diminutives". *Language and Cognitive Processes* 21(7–8). 945–973.
Schiller, N., T. Schuhmann, A. Neyndorff and B. Jansma. 2006. "The influence of semantic category membership on syntactic decisions: A study using event-related brain potentials". *Brain Research* 1082. 153–164.
Schlick, W. 1984. "Die Kriterien für die deutsche Genuszuweisung bei substantivischen Anglizismen". *The German Quarterly* 2. 402–431.
Schulte-Beckhausen, M. 2002. *Genusschwankung bei englischen, französischen, italienischen und spanischen Lehnwörtern im Deutschen: Eine Untersuchung auf der Grundlage deutscher Wörterbücher seit 1945*. Frankfurt am Main: Peter Lang.
Schwichtenberg, B. and N. Schiller. 2004. "Semantic gender assignment regularities in German". *Brain and Language* 90. 326–337.
Steinmetz, D. 1986. "Two principles and some rules for gender in German: Inanimate nouns". *Word* 37(3). 189–217.
Steinmetz, D. 2006. "Gender shifts in Germanic and Slavic: Semantic motivation for neuter?" *Lingua* 116. 1418–1440.
Vogel, P.M. 2000. "Nominal abstracts and gender in Modern German: A 'quantitative' approach towards the function of gender". In: Unterbeck, B., M. Rissanen, T. Nervalainen and M. Saari, *Gender in grammar and cognition*. Berlin and New York: De Gruyter. 461–494

Wegener, H. 1995. *Die Nominalflexion des Deutschen – verstanden als Lerngegenstand*. Tübingen: Niemeyer.

Wiesinger, P. 1983. "Einteilung der deutschen Dialekte: Die Gliederung der deutschen Dialekte". In: Besch, W., U. Knoop, W. Putschke and H. Wiegand (eds.), *Dialektologie. Ein Handbuch zur deutschen und allgemeinen Dialektforschung* (2 vols.), Volume 2 (HSK 1.2). Berlin and New York: De Gruyter. 807–900.

Yang, W. 1990. *Anglizismen im Deutschen: Am Beispiel des Nachrichtenmagazines Der Spiegel*. Tübingen: Niemeyer.

Yeandle, D. 2009. "English loan words and their gender in German. An etymological perspective". In: Pfalzgraf, F. (ed.), *English in contact with varieties of German*. Frankfurt am Main: Peter Lang. 75–94.

Zubin, D. and K.-M. Köpcke. 1986. "Gender and folk taxonomy: The indexical relation between grammatical and lexical categorization". In: Craig, C. (ed.), *Noun classes and categorization*. Amsterdam and Philadelphia: Benjamins. 139–180.

Address correspondence to:
Alexander Onysko
University of Klagenfurt
Universitätsstraße 65-67
9020 Klagenfurt
Austria
alexander.onysko@aau.at